



How to Fix S/MIME for Air Force OWA: Reading and sending encrypted e-mail, and applying/validating digital signatures

10/1/2019

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Document source location:

<https://cs2.eis.af.mil/sites/10007/internal/SMime%20Library/Forms/AllItems.aspx>

TABLE OF CONTENTS

Section	Page
TABLE OF CONTENTS.....	2
1 INTRODUCTION	3
1.1 Purpose	3
1.2 Background	3
1.3 Scope	3
1.4 System Requirements	3
2 PROCEDURES	4
2.1 Download Edge S/MIME Extension v20.19.701.1	4
2.1.1 For home computers	4
2.1.2 For work computers.....	4
2.2 Install or Update Edge S/MIME Extension.....	6
2.2.1 For home computers	6
2.2.2 For work computers.....	7
2.3 Configure Edge S/MIME Extension	9
3 PROCEDURES	11
3.1 Google Chrome S/MIME Extension	11
3.1.1 For home computers	11
3.1.2 For work computers.....	11
3.3 Configure Chrome S/MIME Extension.....	12
4 Test S/MIME Functionality in AF OWA.....	15

1 INTRODUCTION

1.1 Purpose

The primary purpose of this document is to provide the procedures taken to update S/MIME for the Microsoft Edge and Google Chrome web browsers for Air Force Outlook on the web (AF OWA) users to read/send encrypted e-mail and apply/validate digital signatures.

1.2 Background

The capability to read/send encrypted e-mail and apply/validate digital signatures on e-mail using AF OWA has been degraded for some time. Focused troubleshooting has uncovered that the S/MIME version that is available on the AF OWA website is not current (version 20.19.214.2 at the time of this document). Microsoft is in the process of officially updating the AF tenant's S/MIME control through their release process, however AFNIC, in cooperation with several partners, have found a fix specifically for Microsoft Edge and Google Chrome.

1.3 Scope

This document will provide AF OWA users a fix for S/MIME on Microsoft Edge and Google Chrome for both home and work computers.

- External AF OWA website (e.g. home, hotel, school): <https://owa.us.af.mil/>
- Internal AF OWA website (e.g. work, AFNet VPN): <https://webmail.apps.mil/owa/>

1.4 System Requirements

- Microsoft Edge and/or Google Chrome web browser(s) installed
- DoD root certificates installed (<https://public.cyber.mil/pki-pke/end-users/getting-started/>)
- CAC
- Smart card reader
- Middleware (if necessary, depending on your operating system)

2 PROCEDURES

2.1 Download Edge S/MIME Extension v20.19.701.1

Until the updated S/MIME control (version 20.19.701.1 or greater) has 100% propagated to the AF tenant, follow these steps to download the S/MIME extension for Microsoft Edge:

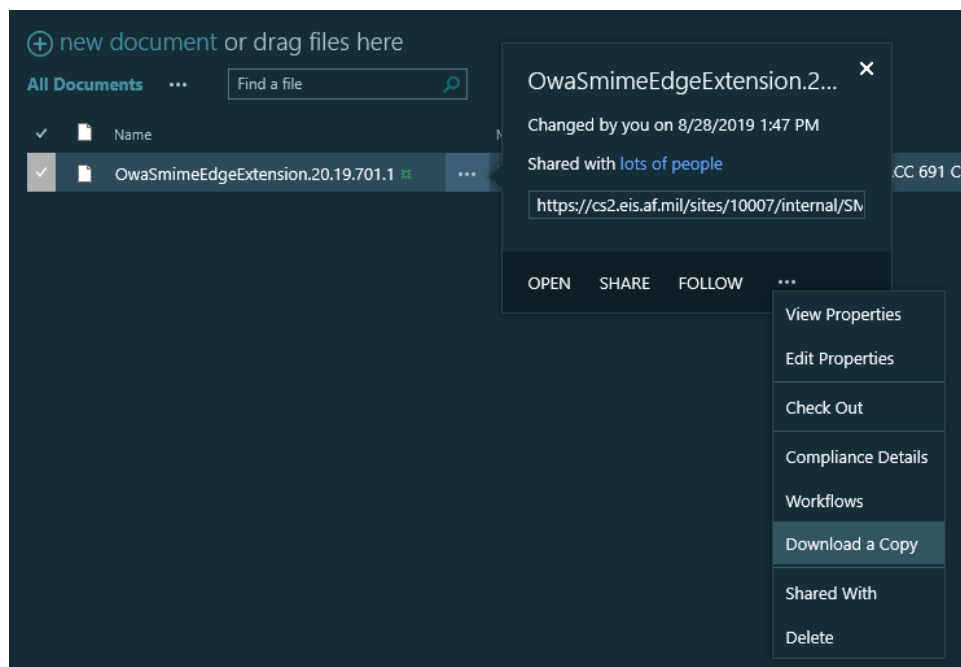
2.1.1 For home computers

Users can download the S/MIME extension at this link (case sensitive):

<https://ow2.res.office365.com/owasmime/20.19.701.1/OwaSmimeEdgeExtension.appxbundle>. If the link for some reason does not work, users can download a copy from the AFNIC Enterprise Services SharePoint at this link (use your e-mail certificate):

<https://cs2.eis.af.mil/sites/10007/internal/SMime%20Library/Forms/AllItems.aspx> and select the “Non-AFNet_Computer” folder.

To download, click the ellipses in both menus and select “Download a copy” (as depicted below) to save the file to the Downloads folder on your computer. Go to Section 2.2 to continue.



2.1.2 For work computers

Applies to computers with the AFNet SDC image. Users connected to NIPRNet may utilize the Software Center to install the Edge extension. Click on the Start window, type in Software Center. Click on Applications on the left, choose Microsoft Edge S/MIME Extension and click install. Close Software Center.

Alternatively, an administrator with elevated permissions will be needed to properly download and install/update S/MIME. This mainly applies to users with work computers in a non-AFNet environment (e.g. school on .edu domain).

NOTE: AFNet-connected computers will receive an enterprise update that will automatically install the required files, so users will not need to coordinate with their local administrators to download and install S/MIME. **However**, users will want to ensure that S/MIME is configured correctly and test the functionality for themselves (refer to Sections 2.3 and 2.4 below), and coordinate with their communications focal point (CFP) if they encounter issues.

Administrators can copy the required files/folders from \\VEJX-AS-006v\SMIME\AFNET_Computer_LocalAdminRequired. If unable to access the shared drive location, administrators can download a copy from the AFNIC Enterprise Services SharePoint at this link (use e-mail certificate): <https://cs2.eis.af.mil/sites/10007/internal/SMime%20Library/Forms/AllItems.aspx> and select the “AFNet_Computer_Local_Admin_Required” folder.

Administrators will need to **copy all five (5) files to the desktop of the user using AF OWA.** Once downloaded, continue to Section 2.2.

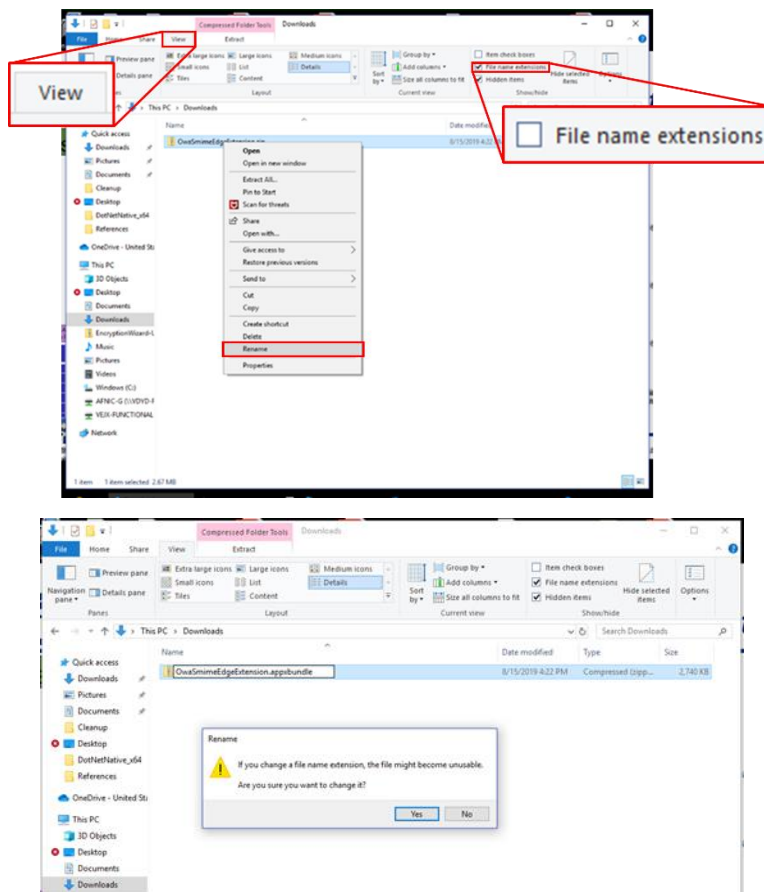
2.2 Install or Update Edge S/MIME Extension

Follow these steps to install or update the S/MIME extension for Microsoft Edge:

2.2.1 For home computers

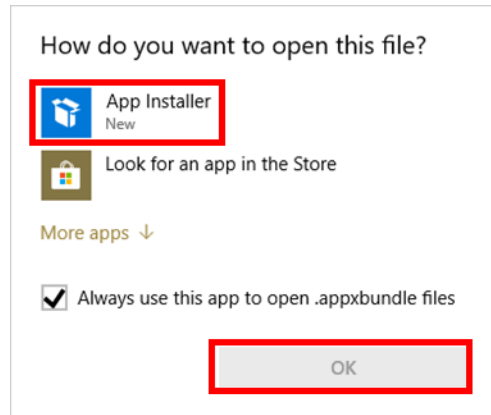
1. Navigate to the Downloads folder on your computer.

NOTE: If for some reason the downloaded file saved as a .zip instead of .appxbundle, users will need to rename the file by clicking the View tab in the folder window and checking the box for “File name extensions” on the right (as depicted below). Right-click on the file, select Rename, and replace the “.zip” with “.appxbundle” and hit Enter to change the file name extension (click Yes if prompted).

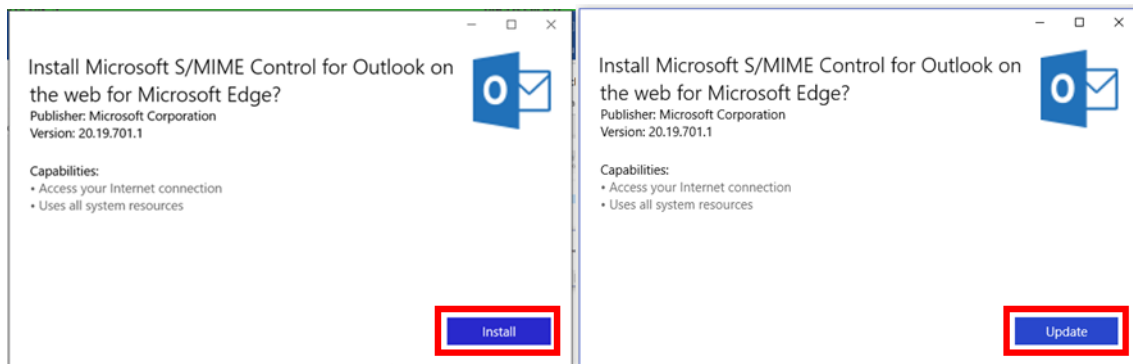


2. Double-click on the OwaSmimeEdgeExtension appxbundle file to initiate the install/update. If prompted “How do you want to open this file?”, choose “App Installer” and click OK (as depicted below).

Name	Date modified	Type	Size
OwaSmimeEdgeExtension.appxbundle	8/15/2019 4:22 PM	APPXBUNDLE File	2,740 KB



3. A pop-up window will appear asking you to install or update S/MIME Control for Outlook.



4. Click Install or Update to complete the install/update process, and continue to Section 2.3.

2.2.2 For work computers

1. Log in as administrator.
2. Enable sideloading: This can be done through the GUI in Windows 10 as local admin or modified in the registry. **Always** default to making this change with the GUI, however, if you do not have local admin rights to the computer, someone who does can add the following registry keys, in subsection b, remotely using regedit (recommend removing these after setup):
 - a. GUI method: Navigate to Start Menu > Settings > Update & Security. Select “For developers” on the left-side and select the “Sideloading apps” radio button.
 - b. Registry key method:
 - HKLM:\SOFTWARE\Microsoft\Windows\CurrentVersion\AppModeUnlock, AllowAllTrustedApps (DWORD) with value of 1
 - HKLM:\SOFTWARE\Microsoft\Windows\CurrentVersion\AppModeUnlock, AllowDevelopmentWithoutDevLicense (DWORD) with value of 0 and close regedit

3. If the computer is connected to the AFNet, you will need to modify the following registry key as local admin to disable SmartScreen so the OwaSmimeEdgeExtension file can run without error:

- HKLM:\SOFTWARE\Policies\Microsoft\Windows\System, change EnableSmartScreen DWORD value to 0, click OK and close regedit

4. Have the user log back into the computer.

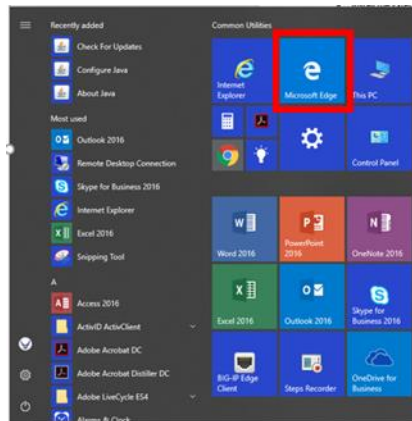
5. Open and install the Microsoft.NET.Native.Framework.1.3 & Microsoft.NET.Native.Runtime.1.4 files in both the DotNetNative_x64 and DotNetNative_x86 subfolders—a total of four (4) files will be installed.

6. Double-click on the OwaSmimeEdgeExtension appxbundle file to initiate the install/update. If the previous steps were followed, no errors should be presented. Continue to Section 2.3.

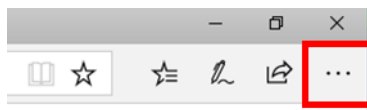
2.3 Configure Edge S/MIME Extension

Follow these steps to correctly configure the S/MIME extension in Microsoft Edge:

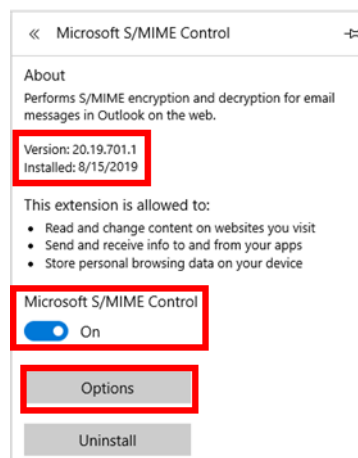
1. Click on the Start button and open Microsoft Edge. It may be already pinned to the Start Menu on the right-side (as depicted below) or you may have to navigate to it in the programs list on the left-side.



2. Click on the ellipses on the top-right of the window.



3. Select “Extensions” from the menu.
4. Move your mouse over the “Microsoft S/MIME Control” until the settings cog icon appears, then click it.
5. In the “About” section, ensure that your version reflects “20.19.701.1” and that the toggle is set to On.



6. Click “Options” to add the necessary AF OWA domains:

- a. Check both boxes and add “owa.us.af.mil” and “webmail.apps.mil” on separate lines in the text box (as depicted below).
- b. Click Save and you will notice green text appearing to inform you your changes were saved successfully.



The screenshot shows the 'Microsoft S/MIME Control options' page. Under the 'Allowed domains' section, there are two checkboxes: 'Allow Microsoft domains (For example, Office.com or Outlook.com)' and 'Allow work or school domains'. Both checkboxes are checked and highlighted with red boxes. Below these checkboxes is a text box containing the domains 'owa.us.af.mil' and 'webmail.apps.mil', also highlighted with a red box. A 'Save' button is located at the bottom of the form.

7. Close Microsoft Edge and proceed to section 4 to test OWA S/MIME in Edge.

NOTE: Unsigned extensions are automatically turned off on subsequent launches of Microsoft Edge. If you see the pop-up below when you open Microsoft Edge, click “Turn on anyway” to use S/MIME, or go to the Extensions menu and turn it on from there.

We've turned off extensions from unknown sources. They might be risky so we recommend keeping them off.

Turn on anyway

Keep them off



3 PROCEDURES

3.1 Google Chrome S/MIME Extension

Follow these steps to install the S/MIME extension on Google Chrome.

3.1.1 For home computers

Currently, this feature is not available for most personal computers. Per Microsoft, S/MIME use in Google Chrome is limited to domain joined computers.

3.1.2 For work computers

1. Log in as administrator.

2. Using Regedit, navigate to

Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Google\Chrome and create the following (**NOTE:** Entries are case sensitive):

Key: ExtensionInstallForcelist

String Value: 1 (increment the number if 1 is already in use)

Value Data:

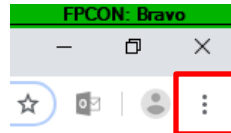
maafgiompdekodanheihhgilkjchcakm;https://outlook.office.com/owa/SmimeCrxUpdate.ashx

3. Have the user log back into the computer to configure the S/MIME extension.

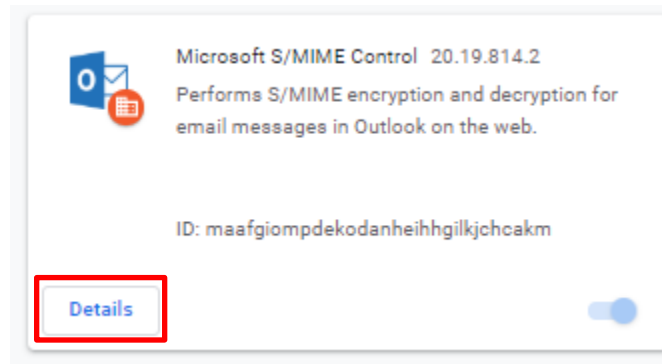
3.3 Configure Chrome S/MIME Extension

Follow these steps to configure the S/MIME extension on Google Chrome.

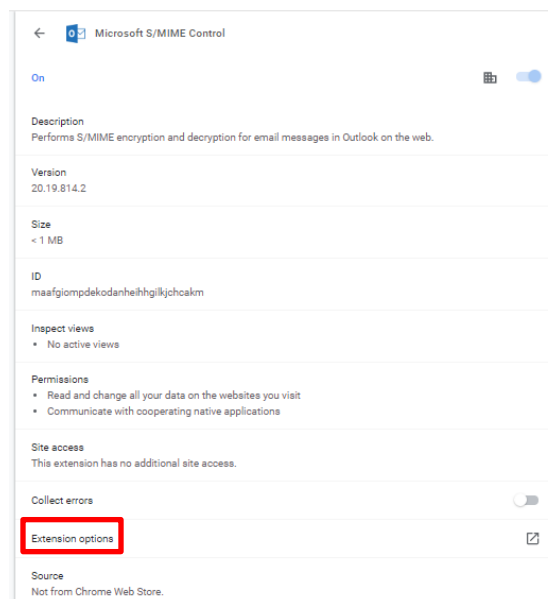
1. Ensure that you have network connectivity.
2. Open Google Chrome.
3. Click on the vertical ellipses in the upper right corner of the window, hover over “More Tools” and click on “Extensions”. **NOTE:** It may take several minutes for the next window to pop up, please be patient.



4. From the Microsoft S/MIME Control 20.19.814.2 window, click on “Details”

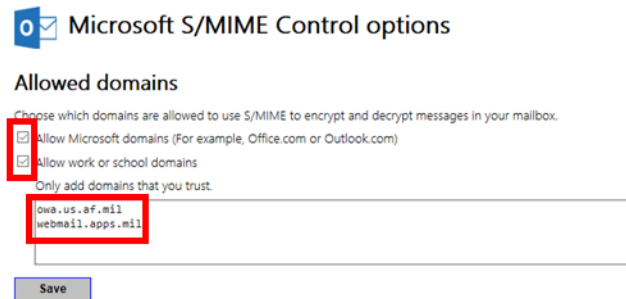


5. Click on “Extension Options” to add the necessary AF OWA domains:



- a. Check both boxes and add “owa.us.af.mil” and “webmail.apps.mil” on separate lines in the text box (as depicted below).

b. Click Save and you will notice green text appearing to inform you your changes were saved successfully.



6. Close Chrome.


7. Launch Chrome.

8. Access the appropriate AF OWA URL (External AFNet: <https://owa.us.af.mil>; Internal AFNet: <https://webmail.apps.mil/owa/>).

NOTE: When logging into AF OWA for the first time on a computer, you *may* be prompted to login using your Air Force e-mail address (i.e. first.last@us.af.mil or first.last.#@us.af.mil).

9. If prompted for login certificates, use your e-mail certificate (i.e. DOD EMAIL CA-##).

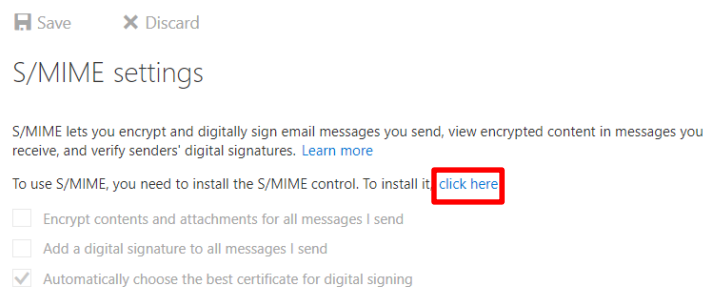
10. Read and click OK at the DoD Warning and Consent Banner screen. Be patient, it may take a moment for your mail to populate.

11. Once OWA has loaded, click on the Settings cog  on the upper right side of the window to open the “Settings” menu.

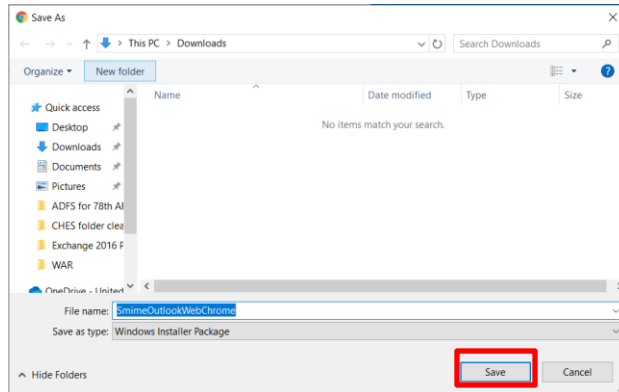
12. Click on Mail in the “Your app Settings” section.

13. Click on S/MIME in the menu on the left side of the screen.

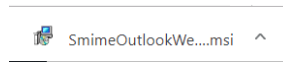
14. In the S/MIME Settings window, click on “Click Here”



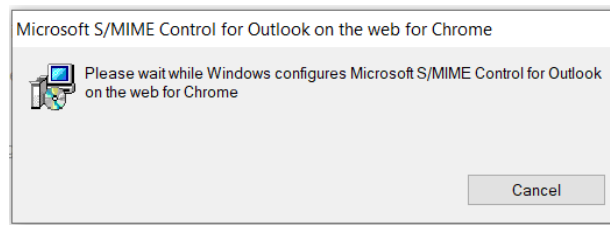
15. In the Save As window, click Save to download the SmimeOutlookWebChrome.msi file to the default Downloads folder.



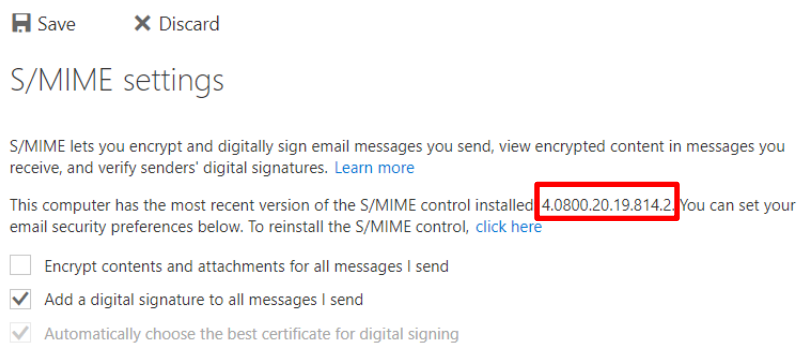
16. Once downloaded, navigate to the Downloads folder or click on the SmimeOutlookWebChrome.msi file at the bottom of the window to open the file.



17. Allow the S/MIME Control to load.



18. Once installed, navigate back to the S/MIME Settings (see steps 11-13 above if needed) and verify the new S/MIME control is installed by validating a version number is present (e.g. 4.0800.20.19.814.2).



19. Close and re-launch Chrome before moving on.

4 TEST S/MIME FUNCTIONALITY IN AF OWA

Follow these steps to test that S/MIME is properly configured and working as intended:

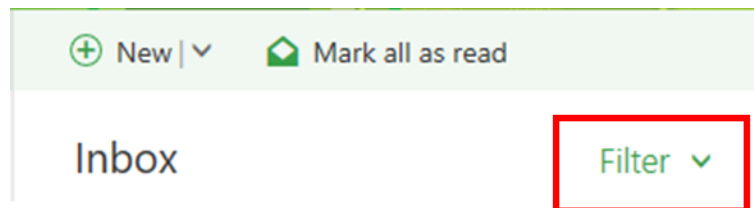
NOTE: Users may be prompted multiple times to enter their PIN while using OWA, when opening an encrypted or digitally signed message, and/or when sending an encrypted or digitally signed message. This is normal.

1. Ensure that you have network connectivity.
2. Launch Microsoft Edge or Google Chrome.
3. Access the appropriate AF OWA URL (External AFNet: <https://owa.us.af.mil>; Internal AFNet: <https://webmail.apps.mil/owa/>).

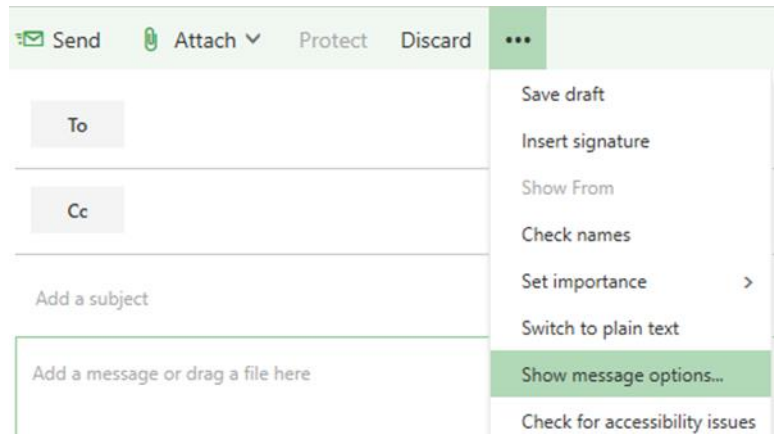
NOTE: When logging into AF OWA for the first time on a computer, you *may* be prompted to login using your Air Force e-mail address (i.e. first.last@us.af.mil or first.last.#@us.af.mil).

4. If prompted for login certificates, use your e-mail certificate (i.e. DOD EMAIL CA-##).
5. Read and click OK at the DoD Warning and Consent Banner screen. Be patient, it may take a moment for your mail to populate.
6. Test reading a signed/encrypted e-mail without errors: If you see *S/MIME isn't supported in this view. To view this message in a new window, click here*, click the link and the message will open in a new browser window and be viewable.

NOTE: By default, messages are viewed on the right side in **Conversations**. To easily view encrypted e-mail messages, you can change your view mode to **Messages**. Click “Filter” at the top of the Inbox, move down the menu to “Show as” and select Messages instead of Conversations.



7. Test sending a signed/encrypted e-mail without errors:
 - a. Click on +New to start a new e-mail message.
 - b. Click on the ellipses above the new e-mail message for more options and choose “Show message options...” from the menu.



- c. Check the boxes for “Encrypt this message (S/MIME)” and “Digitally sign this message (S/MIME)” and click OK.
- d. Complete the rest of your message (fill in To, Subject, etc.) and click Send.
- e. Follow up with the person the e-mail was sent to ensure they received it.